

**REMARKS**

Claims 1-24 are all the claims pending in the application. Claim 1 is amended. No new matter is presented.

To summarize the Office Action, claim 1 has been rejected under 37 C.F.R. § 112, second paragraph, claims 1-5, 7 and 22 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sakamoto *et al.* (U.S. Patent No. 6,633,571, hereinafter “Sakamoto”) in view of Radogna *et al.* (U.S. Patent No. 5,991,299, hereinafter “Radogna”), claims 8-13, 15-21, 23 and 24 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sakamoto in view of Rodogna and Berstis (U.S. Patent No. 6,570,870), and claims 6 and 14 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sakamoto *et al.* in view of Rodogna *et al.* and Bonaventure.

The outstanding rejections are traversed, as discussed below.

**Claim Rejections - 35 U.S.C. § 112**

As noted above, claim 1 stands rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicant respectfully traverses.

In the grounds of rejection, the Examiner contends that there is insufficient antecedent support of the recitation “an IP packet” in line 9. *See* Office Action at page 4. Applicant notes that the preamble of claim 1 presently recites “A network system wherein IP packets according to a service requested by a terminal are sent to one of a plurality of service providers”, while a packet exchange receiving “an IP packet in a first network layer protocol format” is subsequently

introduced. Thus, Applicant submits that this ground of rejection is moot, and reconsideration and withdrawal of the 35 U.S.C. § 112, second paragraph, rejection of claim 1 is kindly requested.

### **Claim Rejections - 35 U.S.C. § 103**

#### Independent claim 1

Claim 1 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sakamoto in view of Radogna. Applicant respectfully traverses and submits that the combination of features recited by claim 1 would not have been rendered *prima facie* obvious, as evidenced by the following.

Claim 1 defines a network system wherein IP packets according to a service requested by a terminal are sent to one of a plurality of service providers, the network system comprising, *inter alia*, a plurality of IP networks that each utilize a different network layer protocol, the plurality of IP networks including at least a first IP network, a second IP network, and a third IP network; and a packet exchange, provided between the plurality of IP networks. As further defined by claim 1, the packet exchange receives an IP packet in a first network layer protocol format to be sent from the first IP network, determines a destination network among the second IP network and the third IP network based upon a destination address specified by the IP packet in the first network layer protocol format, and converts the IP packet in the first network layer protocol format, wherein the IP packet in the first network layer protocol format is converted to a second network layer protocol format if the second IP network is the destination address that is

determined and the IP packet of the first network layer protocol format is converted to a third network layer protocol format if the third IP network is the destination address that is determined.

In rejecting claim 1, the Examiner initially relies on Sakamoto, but concedes that Sakamoto fails to teach that each IP network utilizes different network layer protocols. However, the Examiner alleges that Radogna compensates for this deficiency. In particular, the Examiner contends that Radogna teaches a gateway (THP 60) that includes routines for translating a plurality of network protocols. Further, the Examiner alleges that it would have been obvious to modify the interwork router of Sakamoto to include the gateway of Radogna to “be adaptive to different network layer protocols.” *See* Office Action at pages 2-3.

Applicant respectfully disagrees and submits that neither Sakamoto nor Radogna, whether taken alone or in combination would teach or suggest all the claim features, even assuming the Examiner’s asserted motivation to combine is proper. For instance, Sakamoto merely teaches an interwork router which connects a first network type (i.e., ISP1) to a second network type (i.e., ISP2). *See* Sakamoto at col. 5, lines 8-40. As taught by Sakamoto, ISP1 composes a virtual private network (VPN) by encapsulating IP packets and ISP2 composes a VPN by encapsulating packets in an Multi Protocol Layer Switching (MPLS) network, and the interwork router simply receives packets from the ISP1 that are encapsulated as IP packets, removes the capsule header used in ISP1 and then creates a new capsule header for the packet that is then sent to a switch for transmitting to ISP2. *See* Sakamoto at col. 5, lines 41-56 and col. 7, lines 3-27. Since ISP2 uses MPLS, the interwork router creates an ATM header for the packet

for transfer on the ISP2 network. *See* Sakamoto at col. 5, lines 56-60. According to Sakamoto, since naked IP packets, from which the capsule header is removed, are never supplied to the switch, no other invalid users can insert packets in the VPN from the switch, thereby increasing network security. *See* Sakamoto at col. 7, lines 18-26.

Thus, Sakamoto merely teaches removal of a capsule header of an IP packet from a first network (IP encapsulation) and replacing the capsule header prior to switching for transmission to a second network (MPLS). Sakamoto therefore fails to teach or suggest the packet exchange, as claimed, which receives an IP packet in a first network layer protocol format and determines a destination address among second and third IP networks, which each utilizes different network layer protocol formats from the first network layer protocol format. Further, as Sakamoto merely replaces a IP capsule header with an ATM header for the MPLS network, Sakamoto does not suggest a packet exchange which converts the IP packet as claimed.

On the other hand, Radogna does not compensate for deficiencies of Sakamoto. Radogna teaches a bridge/router network device that performs header translations of frames of frames transmitted among data networks, which includes four slots for network interface modules. *See* Radogna at col. 2, line 63 - col. 3, line 22. Each network interface module includes at least one receive ASIC (application specific integrated circuit) and at least one transmit ASIC that are specific to the type of data traffic supported by the respective network interface module. *See* Radogna at col. 3, lines 44-49.

As taught by Radogna, the receive ASIC includes a Receive Header Processor (RHP 46) that examines the received header and determines a protocol type based on a protocol type table

that includes a plurality of different formats. *See* Radogna at col. 4, lines 25-50. However, Radogna simply provides for a high speed *header translation* processing in which a *header translation* is conducted at **layer 2 (i.e., the data link layer)**. Conversely, the claimed network system relates to a format conversion at *layer 3* of the OSI reference model (i.e., a network layer conversion). Since protocol layer are determined in accordance with differences in ranges for assuring interconnection (e.g., interoperability) in the communication, it would not have been obvious to one of ordinary skill in the pertinent art to modify the teaching of Sakamoto based on Radogna's teaching of layer 2 header translation in such a manner to arrive at the claimed invention, as neither Sakamoto nor Radogna discloses all the claimed features.

Thus, neither Sakamoto nor Radogna, whether taken alone or in combination, would teach or suggest *at least* the feature of "converting the IP packet in the first network layer protocol format, wherein the IP packet in the first network layer protocol format is converted to a second network layer protocol format if said second IP network is the destination address that is determined and the IP packet of the first network layer protocol format is converted to a third network layer protocol format if said third IP network is the destination address that is determined", as recited by claim 1. Accordingly, reconsideration and withdrawal of the rejection of claim 1 is requested.

As evidenced by the foregoing, the network system defined by claim 1 would not have been rendered *prima facie* obvious by Sakamoto and Radogna. Accordingly, reconsideration and withdrawal of the rejection is requested. Further, Applicant submits that claims 2-7 and 21-22

should be allowed at least by virtue of depending from claim 1, as well as by virtue of the features recited therein.

Independent Claim 8

Claim 8 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sakamoto in view of Radogna and Berstis. This ground of rejection is traversed, and Applicant submits that the Examiner has failed to establish *prima facie* obviousness, as discussed below.

Independent claim 8 defines a network system comprising, *inter alia*, a user terminal connected to a first network to be utilized by a user; a plurality of networks of service providers or online entrepreneurs which provide various services to the user including at least a second network and a third network, wherein the first network, the second network, the third network each utilize a different network layer protocol; an IP network which transmits packet data between the user terminal and the networks through a router according to an IP address; and a packet exchange, connected to the IP network, the packet exchange receiving an IP packet in a first network layer protocol format from the user terminal via the first network, determining a destination network among the second network and the third network based upon a destination address specified by the IP packet in the first network layer protocol format, and converting the IP packet in the first network layer protocol format. As defined by claim 8, the IP packet in the first network layer protocol format is converted to a second network layer protocol format if the second network is the destination address that is determined and the IP packet in the first

network layer protocol format is converted to a third network layer protocol format if the third network is the destination address that is determined.

In rejecting claim 8, the Examiner initially relies on the combination of Sakamoto and Radogna. As in the rejection of claim 1, the Examiner the Examiner initially relies on Sakamoto, but apparently concedes that Sakamoto fails to teach that each IP network utilizes different network layer protocols and alleges that Radogna compensates for this deficiency. Thus, Applicant submits that the above arguments regarding the failure of either Sakamoto or Rodogna, whether taken alone or in combination, to teach or suggest *at least* the feature of “converting the IP packet in the first network layer protocol format, wherein the IP packet in the first network layer protocol format is converted to a second network layer protocol format if said second IP network is the destination address that is determined and the IP packet of the first network layer protocol format is converted to a third network layer protocol format if said third IP network is the destination address that is determined”, as set forth with respect to claim 1, are likewise applicable to the rejection of claim 8. Applicant thus submits that the rejection of claim 8 is improper at least for similar reasons, as Berstis would also fail to compensate for at least this deficiency of claim 8 as will be evident from the following.

For instance, the Examiner concedes that Sakamoto in view of Radogna fails to teach the additional feature of a server that unitarily manages account information and performs alternative account billing, as claimed. *See* Office Action at page 3. To compensate for this deficiency, the Examiner turns to Berstis, which is alleged to teach an account server 48 for unitarily managing account information for a user from a plurality of internet service providers (ISPs). The

Examiner contends that it would have been obvious to combine the teaching of Berstis “to obviate conventional telephone call charging.” *See* Office Action at pages 3-4.

Applicant respectfully disagrees. Berstis teaches a network in which a user browsing web content at one of client machines 42, which are connected to a service provider (ISP 44), can connect with a live operator by activating a selection on a web page during a browsing session and the charge for the call will be billed to the user’s ISP billing statement. *See* Berstis at col. 4, lines 25-38. Berstis teaches that allowing the user to contact the live operator during the browsing session obviates the use of a dedicated telephone line or specialized equipment for the voice communication and allows contact with the live operator without requiring the existing internet connection and web browsing session to be terminated. *See* Berstis at col. 4, lines 38-44.

Further, Berstis teaches that the IP telephone call may be transmitted as an IP telephony call from the user’s client machine directly to the web site operator, or the call may be converted to analog for output on a conventional POTS (plain old telephone service) network if direct IP telephony is not supported. *See* Berstis at col. 5, lines 1-39. Berstis teaches an account server 48 that manages “a plurality of IPSs and their associated users”, which adds the cost associated with an telephone call to the web site operator to the user internet access charges. *See* Berstis at col. 5, lines 40-47 and col. 6, lines 6-24.

However, Berstis does not suggest unitarily managing account information of services provided to a user in which a user connects to at least two different networks having different network layer protocols and the account management includes charges based on conversion of data between the networks (i.e., from the first network type to the second network type, and the



first network type to the third network type). Rather, Berstis simply teaches billing for a telephone call made during an internet browsing session, in which the billing operation for charging the telephone call is conducted based on the user's action at the terminal side. On the other hand, in accordance with an exemplary embodiment of the present invention, the billing operation for charging the plurality of services is conducted based on the action at the router side, so that billing operation is conducted even if the user is not aware of this operation.

Moreover, as noted above, Berstis suggests nothing about "converting the IP packet in the first network layer protocol format, wherein the IP packet in the first network layer protocol format is converted to a second network layer protocol format if said second IP network is the destination address that is determined and the IP packet of the first network layer protocol format is converted to a third network layer protocol format if said third IP network is the destination address that is determined", which is neither taught nor suggested by Sakamoto in view of Rodogna. Thus, even assuming that the Examiner's asserted motivation to combine Sakamoto, Radonga, and Berstis is proper, the combination would still fail to teach all the claim features, as recited by claim 8.

Accordingly, reconsideration and withdrawal of the rejection of claim 8 is requested. Further, Applicant submits that claims 9-11 are allowable at least by virtue of depending from claim 8, as well as by virtue of the features recited therein.

Independent claims 12 and 19

Independent claims 12 and 19 also stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sakamoto in view of Rodogna and Berstis. Applicant respectfully traverses.

Independent claims 12 and 19 respectively define a network system and packet data transmission method reciting analogous features as recited by claim 8. Thus, Applicant submits that the rejection of claim 12 and 19 is improper, at least for reasons analogous to those set forth above with respect to the network system defined by claim 8. Reconsideration and withdrawal of the rejection of claims 12 and 19 is therefore requested.

With respect to dependent claims 13-18 and 20-24, Applicant submits that these claims are allowable at least by virtue of their dependency and by virtue of the features recited therein.

### **Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

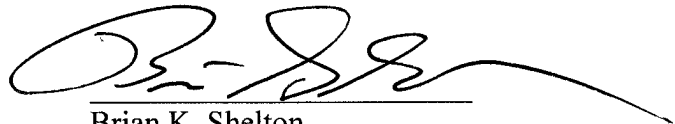
Amendment Under 37 C.F.R. § 1.111  
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Since the Office Action did not specify a shortened statutory period, the six month statutory period for response applies by default. Therefore, the present response is timely filed with no extension fee required.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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